ADDENDUM TO THE FACT SHEET
FOR THE 2009 REAUTHORIZATION
FOR NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM (NPDES)
PERMIT NO. WA0037753

I. GENERAL INFORMATION

Facility: Alderbrook Resort & Spa Wastewater Treatment Plant
10 East Alderbrook Drive
Union, WA 98592

II. APPLICATION REVIEW

Alderbrook Resort & Spa and South Forty Utilities, LLC submitted an application for permit reissuance to the Department of Ecology (Ecology) on February 29, 2008, and March 28, 2008, and Ecology it accepted on April 9, 2008. The scope and manner of any review of an application for replacement of permit by Ecology shall be sufficiently detailed as to insure the following:

- That the Permittee is in substantial compliance with all of the terms, conditions, requirements and schedules of compliance of the expired permit;

- That Ecology has up-to date information on the Permittee's production levels; Permittee's waste treatment practices; nature, content, and frequencies of Permittee's discharge; either pursuant to the submission of new forms and applications or pursuant to monitoring records and reports resubmitted to Ecology by the Permittee; and

- That the discharge is consistent with applicable effluent standards and limitations, water quality standards, and other legally applicable requirements listed in Washington Administrative Code (WAC) 173-216 and WAC 173-200.

Ecology reviewed the application for Alderbrook Resort & Spa Wastewater Treatment Plant and determined that no changes in the treatment characteristics of the effluent process or volume of wastewater has occurred.

III. PERMIT REAUTHORIZATION

This fact sheet addendum accompanies the draft permit, which Ecology proposes reauthorize to Alderbrook Resort & Spa Wastewater Treatment Plant for the discharge of wastewater to Hood Canal. The previous fact sheet is also part of this administrative record and explains the basis for the discharge limitations and conditions of the reauthorized permit.

The existing permit requirements, including discharge limitations and monitoring, do not need to be changed to protect the receiving water quality. The previous fact sheet addressed conditions and issues at the facility at the time when the previous permit was issued, and statements made reflected the status in 2001. Since the issuance of the current permit, Ecology has not received any information which indicates that environmental impacts from the discharge have changed. The reauthorized permit is virtually identical to the previous permit issued on January 28, 2004.

The discharge limits and conditions in effect at the time of expiration of the previous permit are carried over unchanged to this reauthorized permit. Assessment of compliance and inspections of the facility during the previous permit term indicate that the facility should not be placed on a high priority for permit renewal. Ecology assigns a high priority for permit renewals in situations where water quality would materially benefit from a more stringent permit during the next five-year cycle.

The permit reauthorization process, in concert with the routine renewal of high priority permits, allows Ecology to reissue permits in a timely manner and minimize the number of active permits that have passed expiration dates. A system of ranking the relative significance of the environmental benefit to be gained by renewing a permit rather than reauthorizing a permit is followed during Ecology's annual permit planning process. Each permit that is due for reissuance is assessed and compared with other permits that are also due for reissuance. The public is notified and input is sought after the initial draft ranking has tentatively established which permits are likely to be completely renewed and which are likely to be reauthorized. All relevant comments and suggestions are considered before a final decision is made regarding the type of reissuance for each permit.

The main changes to the previous permit are the submittal date requirements. Submittal requirements from the previous permit that were completed and submitted and do not require additional or continued assessment were left unchanged. The submittal dates for the other standard compliance and submittal requirements that have been carried over from the past permit into this reauthorized permit have been adjusted to the proposed permit schedule. Ecology considered these submittals necessary in the previous permit and no information has come forward to cause a reconsideration of the submittal requirement.

The one substantive change to the permit is to the Monitoring Schedule. Monitoring for nitrogen compounds has been added to the permit. Alderbrook Resort is the only NPDES permitted discharger in lower Hood Canal. Hood Canal has had low dissolved oxygen levels and fish kills recently. Excess nutrients in Hood Canal contribute to the low dissolved oxygen problem. A study is underway to determine sources of nutrients to Hood Canal. Therefore, it is important to monitor the Alderbrook Resort discharge for nitrogen compounds that may contribute to the excess nutrients. Monitoring has been added to the draft permit that will characterize nitrogen levels in the discharge.

The permit was also reviewed to determine compliance with the new temperature criteria in the Water Quality Standards for Surface Waters of the state of Washington, Chapter 173-201A WAC. It was determined that the discharge from the Alderbrook Resort has no reasonable potential to exceed the water quality criteria for temperature.

Public notice of the availability of the draft reauthorized permit is required at least 30 days before the permit is issued WAC 173-220-050. The fact sheet and draft permit are available for review (see Appendix A—Public Involvement for more detail on the Public Notice procedures).

After the public comment period has closed, Ecology will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file for the permit and parties submitting comments will receive a copy of Ecology's response. Comments and the resultant changes to the permit will be summarized in the fact sheet addendum, Appendix B—Response to Comments.

IV. RECOMMENDATION FOR PERMIT ISSUANCE

Ecology proposes that this permit be issued for five years.

APPENDIX A – PUBLIC INVOLVEMENT INFORMATION

Ecology has determined to reauthorize a discharge permit to the applicant listed on page 1 of this fact sheet addendum. The permit contains conditions and effluent limitations that are described in the fact sheet.

Public notice of application was published on June 12, 2008, and June 19, 2008, in the *Shelton/Mason County Journal* to inform the public that an application had been submitted and to invite comment on the reauthorization of this permit.

Ecology will publish a Public Notice of Draft (PNOD) on July 31, 2008, in the *Shelton/Mason County Journal* to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet addendum, and fact sheet are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Carey Cholski
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the 30-day comment period to the address above. The request for a hearing shall indicate the interest of the party and the reasons why the hearing is warranted. Ecology will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least 30 days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific test followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from reauthorization of this permit.

Ecology will consider all comments received within 30 days from the date of the PNOD indicated above, in formulating a final determination to issue, revise, or deny the permit. Ecology's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from Ecology by telephone at 360-407-6279 or by writing to the address listed above.

APPENDIX B – RESPONSE TO COMMENTS

The following comments were received during the Public Notice of Draft Permit held for NPDES permit WA0037753. The public notice lasted from July 31, 2008, through August 30, 2008. A meeting was also held with the WRIA 16 Watershed Planning Unit to discuss the permit and receive comments.

Below is a listing of the comments received. Each comment is followed by the corresponding response. We found all of these comments to be educated and well-informed and each comment caused us to step back and consider again how this discharge relates to Hood Canal. In the end, we left the majority of the permit as is, for reasons discussed below, except that we have increased the frequency of monitoring for nitrogen during late spring and summer, 2009, from once a month to twice a month.

While we did not otherwise change this permit in response to comments, we can modify the permit if we need to before the expiration date, to require new studies or monitoring.

On August 18, 2008, Mark Toy from the Department of Health submitted the following comment:

Comment 1:

> Section S3 under section G – Reporting - Shellfish Protection – please revise DOH Shellfish contact information to read: "Department of Health's Shellfish Program at office number (360) 236-3330 during normal working hours and at (360) 786-4183 outside of normal working hours."

Response 1:

> Permit language was changed to read as suggested by Mark Toy.

Comment by Lionel Klikoff, PhD, Sediment Unit Supervisor, Aquatic Resources, Washington Department of Natural Resources:

Comment 2:

> I have reviewed the draft NPDES permit for the Alderbrook Resort and Spa Wastewater Treatment Plant. The Department of Natural Resources (DNR) as steward of the aquatic lands owned by the state of Washington has the obligation to protect those lands. DNR is directed to balance land management activities with other public benefits including environmental protection. I have concerns with the discharge of untreated swimming pool water and with failure to promote the use of reclaimed water by the Department of Ecology as it may affect state owned lands. It is unclear to me why the Department of Ecology is apparently allowing the direct discharge of swimming pool water into Hood Canal. Depending upon the nature and frequency of the disinfection process such a discharge may result in localized elevated levels of chlorine and/or chloramines. Discharge of untreated water is expressly forbidden in the Clean Water Act. The proper use of reclaimed water ought to be encouraged in sensitive habitats known to experience low dissolved oxygen levels. Although modeling suggests that the quantity of nutrients discharged from the facility is small, a more appropriate use of the wastewater at least during the summer months would be the reuse of treated wastewater on the site.

Response 2:

Alderbrook has not drained its pool in several years. If it were to do so, Ecology would work with the facility and likely require that Alderbrook allow chlorine levels to decline to near zero in the pool before discharge to Hood Canal. Absent chlorine, this water would not be polluted and Ecology would not require, nor would the Clean Water Act require, a permit for discharge. Routing this water through the treatment plant could upset the treatment process through excess dilution. A previous owner of Alderbrook did send pool flows to the waste water plant and did in fact upset the treatment process. We have therefore encouraged the Permittee to ensure that management practices are in-place to prevent treatment plant upsets associated with draining of the pool.

Ecology does encourage the use of reclaimed water. NPDES permits are used to require appropriate actions, not to encourage them. The outcome of total maximum daily load (TMDL) or other scientific studies have led to requiring discharges to be removed from water bodies. With this discharge, we do not have any completed studies that would allow us to require the upgrade to reclaimed water. Given the expense of such an upgrade, and given the indications we have that Alderbrook is a relatively small source, we feel the more prudent action at this time is the increase in monitoring. If study outcomes drive higher levels of treatment or removal of the discharge, that will be handled at that time. No changes were made to the permit based on these comments.

Comment by Ken VanBuskirk:

Comment 3:

I am unable to attend the Shelton meeting on the 26th regarding issues and concerns with Ecology's reissuance of permit for Alderbrook. I am concerned that the only change I see in the permit is monitoring for nitrogen. This is not adequate. Please consider putting Alderbrook on the fast track for a land application rather than a marine outfall, and make it cost prohibitive to discharge into marine waters.

Response 3:

While we appreciate your concern, we do not have the authority to do as you request absent of cause. We do have the authority to require appropriate monitoring of the discharge so that we can adequately assess its impact, and we can require higher levels of treatment, or even no discharge, if monitoring and studies show the discharge is causing water quality problems. The University of Washington is completing a study that will help determine if this discharge and others are causing a problem in Hood Canal. Based upon that study, and possibly follow-up studies, this discharger may need to adopt an alternative method of wastewater disposal.

Comment by Robert Hager:

Comment 4:

The allowable nitrogen levels from various sources necessary to restore the dissolved oxygen levels in the lower Hood Canal have not been established. The current study and coordination in the next year or two may result in establishing the nitrogen limits and necessary corrective action. The allowable nitrogen in the Alderbrook outfall may require a change in design and a change in

the permit. The monitoring of the nitrogen levels in the current outfall is a good addition to the permit. Suggest that the nitrogen monitoring be increased to weekly for the critical June through September time period in the first year and then monthly for the June through September time period in the following years. The June through September is when the nitrogen inputs from wastewater systems are a significant source of nitrogen and the most of the algae and phytoplankton growth occurs. This is also the time of greatest activity in the Hood Canal watershed. The planned monthly and quarterly sampling may not pick up peaks in the nitrogen levels in the wastewater.

Response 4:

Ecology agrees that the allowable nitrogen levels have not been established and that once levels are established that changes may be required. Monitoring requirements are always a balance between gathering enough data to gage compliance and set future limits versus the associated cost. Ecology takes into account factors such as the size of the discharge, the typical variability of the parameter, and the likely concentration of the parameter when determining monitoring frequency.

Based on limited nitrogen data from Alderbrook, the concentrations appear low with little variability. Given the treatment plant operation, we would expect fairly low variability in nitrogen data. Based on monthly nitrogen sampling Ecology conducted in a recent South Puget Sound study, we found low month-to-month variability within a given facility, even summer to winter. The characteristics of this discharge suggest that the proposed frequency does not need to be changed

Increasing the monitoring frequency would allow us to have a larger data set germane to Hood Canal sooner, while the proposed year-round sampling provides data that is germane to both Hood Canal and facility planning. For facility planning, winter data is often as useful as summer data. For example, several wastewater use or disposal options require low nitrogen levels, and effluent nitrogen levels in domestic wastewater treatment plant effluents are typically higher in winter than in summer, as the cold weather slows the biological process. After careful consideration, we decided that we wanted both summer and winter data from this facility, but that some additional sampling in 2009 could be useful for Hood Canal studies. As a result, in response to this comment, we changed the permit. The permit requires that Alderbrook sample monthly for nitrogen, except during late spring and summer, 2009, when the permit requires sampling every other week during May, June, July and August.

Comments by Constance C. Ibsen, citizen and resident of Union, Washington:

Comment 5:

First, thank you for coming to Shelton and thanks for the opportunity to ask questions concerning the draft permit for the wastewater facility at Alderbrook Resort and Spa, South Forty, LLC, on Tuesday, August 26, 2008.

At the meeting, I communicated the need to form an independent group of scientists from academia, federal, and state agencies to determine the data needed to understand the possible impacts of this specific facility on the Class AA waters of Hood Canal. At the meeting, I perceived a willingness from the operator of this system to better understand the impact this facility might be having on Hood Canal and the desire to do the right thing for Hood Canal.

My reasons for the above are based on current Ecology documents that have not been referenced or reflected in this draft permit. A recently completed report on South Puget Sound's dissolved oxygen issue revealed:

> "Discharges from wastewater treatment plants, septic systems and other sources add nitrogen to Puget Sound. Individual discharges of nitrogen at one spot may affect dissolved oxygen levels many miles away." (Ecology, April 2008, *Publication 08-10-03, South Puget Sound Dissolved Oxygen Study)*

This could be especially true if the Alderbrook outfall is injecting nutrients into the eutrophic zone and into the path of the flash-like upwelling (Devol, Hood Canal Science Summit, June 30, 2008, and Sound Science, July 18, 2008) that pushes water from Twanoh State Park on the South Shore and deposits it around Sund Rocks on the West Shore--the site of recent fish kills. Also, the August 26th meeting provided no responses to questions concerning phosphorus, plume flow, vertical mixing in the water column and biota.

At the August 26th meeting, I was not confident that Ecology or the operator had a complete, description of the entire service area and existing plant components. Simple questions, for example, diffuser location and direction, depth of outfall, length of outfall, were not referenced to any document or produced. A complete description and drawing of the total facility--service area and components--needs to be attached to the permit. Also, I would recommend that both the operator and Ecology retain all records for ten years. (Recordkeeping and Retention - S3.b)

Ecology has long acknowledged nutrients and, especially nitrogen, as a problem for Hood Canal and several areas of Lower Hood Canal are on the 303(d) list for dissolved oxygen. During the previous renewal for this facility, Ecology was aware of the UW/APL study forming to look at low dissolved oxygen problem in Hood Canal. Regrettably, the 2004 permit did not require any additional monitoring/sampling to better understand the facility's effluent to determine its influence on the low dissolved condition. Now, Ecology staff state that they are waiting for definitive recommendations from UW study. At the August 26th meeting, it became apparent that it would be the 2014 permit process before any official change(s) to the Alderbrook permit-monitoring plan. Ecology and this facility would be in a much better place to respond to emerging data/modeling, nitrogen-loading limits, etc., if all appropriate data needs are determined now and included in the permit.

There are simply too many questions and the 30-day comment period occurring in August--the dogs-days of summer—is inadequate time to receive a wide range of thoughtful, considered responses. Accordingly, I request Ecology conduct a full Public Hearing for Alderbrook Wastewater Permit WA0037753.

Response 5:

Hood Canal is presently the focus of scientific studies to determine the causes of low dissolved oxygen. The discharge of nitrogen from human sources is one source of nitrogen but Alderbrook appears to be one source among several. As a result, we feel that the appropriate focus for scientific studies is on the Canal itself and on the various sources together, rather than in isolation from one another.

The Alderbrook outfall is now 155 feet deep, since it was extended another 1,650 feet in 2004. It is now a total of 3,400 feet from Alderbrook's bulkhead. The diffuser is as follows: there is a 2.5 inch hole in the center of the cap at the end of the 4-inch outfall pipe. Approximately 13 feet back from the end in of the pipe is another 2.5-inch hole located at 2 o'clock. Plume flow and mixing have been looked at in previous studies. Mixing appears to be in the order of 600 to 1. With the discharge this deep, and given the mixing at depth, the nutrients in the discharge are not likely immediately available in the surface zone where algae grow.

Nonetheless, nutrients in this discharge could eventually mix into the surface layer and it is appropriate to consider the potential effect of this source with others on lower Hood Canal. UW is undertaking such a study.

We are focusing additional monitoring on nitrogen as it, rather than phosphorus, is the nutrient that typically controls algae growth in marine waters. We focus on phosphorus for discharges to freshwater streams.

With respect to the service area and treatment process, the existing fact sheet includes a description of both, and a schematic flow diagram of the treatment plant. The recordkeeping requirements in the permit are the standard conditions that are included for all NPDES permits. While three years is the legal requirement to retain records, we generally do keep monitoring records for many years beyond the three-year minimum

During the Ecology review of this permit, we did reconsider the monitoring and we did add monitoring for nitrogen. If any new needs are discovered in the future, the permit can be modified at that time.

Ecology has considered the request for a hearing. While we appreciate Ms. Ibsen's long and dedicated involvement in Hood Canal issues, we typically hold public hearings when requested by organizations, public agencies, or enough individuals to indicate wider public concern and desire for a public hearing. During the 30-day comment period, we did receive a wide range of comments from several individuals. We hope that we have addressed these in this response to comments.

A meeting was held on August 26, 2008, with the WRIA 16 Watershed Planning Unit. Attendees at the meeting included: Frank Benavente (Port of Hoodsport Commissioner), Teri King (Washington Sea Grant), Roslynne Reed (Chair, Mason County Dems), Duane Fagergren (Puget Sound Partnership), Brian McGinnis (Alderbrook), Bill VanBuskirk (Alderbrook), Pam Bennett-Cumming (Mason County Planning), Bob Hager (LHCWC), Constance Ibsen (LHCWC), Greg Zentner (Ecology), Dave Dougherty (Ecology), and Phil Wiatrak (Ecology). Suggestions for permit changes and questions from WRIA 16/Alderbrook meeting included the following:

Comment 6:

More frequent monitoring in summer, and other parameters for monitoring, such as phosphorus and continuous pH.

Response 6:

Please see our response to Mr. Hager (Item 3 above).

Comment 7:

Homeowner notification if plant upset and shellfish closure, along with developing better communications with neighbors.

Response 7:

An older permit for Alderbrook had conditions in it based on an enforcement action against a previous owner of the resort. Besides requiring outside, independent management of the treatment plant, the permit had requirements to notify the neighbors in the event of plant upset. These conditions were unusual and were only included due to the enforcement action. Since the present owner has not experienced the permit violations of the past ownership, we have not included this requirement in subsequent permits. Ecology always encourages Permittees to have good communications with their neighbors.

Comment 8:

Investigate the feasibility of nitrogen removal.

Response 8:

Prior to requiring Alderbrook to undertake a feasibility study for nitrogen removal, we need to determine if Alderbrook needs to reduce its discharge to Hood Canal. That latter step entails a) determining the discharge level that is needed; and b) Determining the level of pollutant Alderbrook is discharging now. The UW study is designed in part to answer the first question. The monitoring we are requiring Alderbrook to undertake will answer the second question.

Once the actual discharge amount is known, then if necessary (that is, if the discharge level is above that needed to protect Hood Canal) either optimization of the present process or an improved process could be investigated.

Comment 9:

Convene a scientific advisory committee for the permit.

Response 9:

Please see our response to Ms. Ibsen's comment (Item 4 above).

Comment 10:

Why is Ecology allowing Alderbrook to continue discharging when other, new discharges are banned?

Response 10:

Our policy for discharges to polluted water bodies is to prevent things from getting worse until we determine the required actions to make things better. We therefore limit additional loadings to the waterbody, which means no expansion of existing discharges or brand new discharges. While new discharges are banned, Alderbrook would also not be allowed to expand. Once the science is

in, it will be determined what if anything can be discharged to Hood Canal. This may mean a reduction at Alderbrook. Capacity for new discharges will be determined, but there may not be any capacity left in the receiving water, and everybody may have to reduce loadings.

Comment 11:

Can we integrate information on this discharger into the Hood Canal model that UW is developing?

Response 11:

The data that we are requiring the discharger to collect can be used in any model of Hood Canal, although it will be another year before we have summer data. Until then, we do know enough about this type of discharge to make reasonable or worst case assumptions for the model. Whether Alderbrook is significant enough to include in the model needs to be determined by the scientists at UW who are undertaking the Hood Canal study.